

REMARKS

Prior to the present amendment, claims 1 through 14 were pending in the above-identified patent application. In an Office Action mailed February 25, 2004, all the pending claims, claims 1-14, were rejected under 35 USC 103(a) as unpatentable over US Patent No. 5,900,863 to Numazaki ("the '863 Patent") in view of US Patent No. 5,161,140 to Terada ("the '140 Patent"). In the present response, Applicant has canceled claims 9 through 14, amended claims 1 through 8 and added claims 15 through 19. Thus, claims 1-8 and 15-19 are now pending.

Claims 1 through 8 have been amended to more clearly distinguish the claimed invention over the '863 Patent and the '140 Patent. In particular, independent claims 1 and 2 have been amended to highlight that the claimed invention is directed to "an image detection processing array including a plurality of image detection processing elements" either arranged in at least one row (see claim 1) or arranged in a matrix having a plurality of rows (see claim 2). As recited in claims 1 and 2, each of the plurality of image detection processing elements in the array includes a photodetector, converter and adder. Similar language is recited in new claims 15 through 19. This is completely unlike the photodetector array disclosed in the '863 Patent. Dependent claims 2 through 8 have been amended in consideration of amendments made to independent claims 1 and 2.

As disclosed in the '863 Patent, the photodetector array is "an array of photodiodes" that "generate signals, which are supplied to the analog switch 172. The switch 172 selects some of these signals and supplies the selected signals to the analog signal

processing section 173." (Col. 35, lines 56-60). The signal processing section "comprises an I/V converter-amplifier, a preamplifier 175, a band-pass filter 176 . . . The I/V converter-amplifier 174 receives from the analog switch 172 the currents generated by the photodiodes of the detector array 171 . . . [and] then converts the currents into voltages and amplifies these voltages." (Col. 35, line 61 to Col. 36, line 1). Thus, much like the prior art devices discussed on pages 1 and 2 of the Applicant's application, the '863 Patent discloses the use of a one converter and one adder to process the information from all the photodiodes in the photodetector array. This is unlike the claimed invention wherein each image detection processing element includes a photodetector, converter and adder.

In addition, the '863 Patent does not disclose the "cumulative adder formed by connecting said adders of a plurality of said image detection processing elements in sequence" of claim 1, or the "first cumulative adders," the "second adders" or the "second cumulative adder" of claim 2. Similarly, the '140 Patent fails to disclose any of these claimed element. The '140 Patent was cited for its disclosure of a "first adder counter [that] cumulatively adds the 4-bit difference data with the annexed polarity bit to form an 8-bit current track position data." (Col. 6, lines 11-14). However, the first adder of the '140 Patent is not a cumulative adder that is formed by connecting the adders of a plurality of the image detection processing elements in sequence. It is also not the second adders corresponding to respective rows of the image detection processing elements and the second cumulative adder formed by connecting the second adders and cumulatively

adding the outputs of the final stages of the first cumulative adders as required by claim

2. Thus, the '140 Patent does not teach the claimed invention of the present invention.

For the foregoing reasons, Applicant submits that the pending claims are allowable over the '863 Patent and the '140 Patent. Each of these references alone or in combination fail to teach all the elements of the pending claims. Accordingly, Applicant respectfully submits that claims 1-8 and 15-19 be allowed to issue.

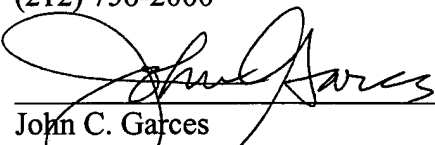
The undersigned is available for a telephone conference if the Examiner would find it helpful in considering any of the amendments or remarks made herein.

The Patent and Trademark Office is authorized to charge any fees required for the entry of this Response, including fees for an extension of time, and any further fees that are properly assessable in this case, or to credit any overpayment, to Deposit Account No. 500675, order number 876564/0083. In the event that an extension of time is needed for entry of this Response that is not otherwise provided for, such extension of time is hereby respectfully requested.

Respectfully submitted,
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